

## Patent claims

1. The use of gangliosides, ganglioside derivatives  
and/or cholesterol derivatives for preparing an  
agent for modulating sphingolipid-cholesterol  
microdomains.
2. The use as claimed in claim 1,  
characterized in that  
the agent influences the location of components  
and their function on the sphingolipid-cholesterol  
microdomains.
3. The use as claimed in claim 1 or 2,  
characterized in that  
the agent influences the location of proteins on  
the sphingolipid-cholesterol microdomains.
4. The use as claimed in claim 3,  
characterized in that  
the agent influences the location of anchor  
proteins, acylated proteins, Src kinases and/or  
cholesterol-anchored proteins and other raft  
proteins.
5. The use as claimed in claim 3 or 4,  
characterized in that  
the agent acts on glycosylphosphatidylinositol  
anchor proteins, kinases of the Src family,  
influenza virus hemagglutinin and other viral  
proteins and/or caveolin-1, 2 or 3 in the  
sphingolipid-cholesterol microdomain.
6. The use as claimed in one of the preceding claims,  
characterized in that  
the agent brings about a disassembly of the  
protein clusters.

7. The use as claimed in one of the preceding claims, characterized in that the ganglioside is selected from bovine brain gangliosides, GM<sub>1</sub>, GD1a, GD1b, GD3, GM2, GM3, GQ1a, GQ1b and/or globosides and their derivatives, in particular unsaturated sphingosines or ceramides containing unsaturated or short fatty acids.
8. The use as claimed in one of the preceding claims, characterized in that cholesterol derivatives, in particular cholesterol sulfate, are employed.
9. The use as claimed in one of the preceding claims, characterized in that the modulation of the sphingolipid cholesterol microdomains brings about a change in membrane transport, signal transmission and/or cell adhesion properties and/or in enzymic processes.
10. The use as claimed in one of the preceding claims, characterized in that the modulation of the sphingolipid-cholesterol microdomains brings about a change in the proteolysis of the amyloid precursor protein of Alzheimer's disease or a modification in a prion protein.
11. The use as claimed in one of the preceding claims, characterized in that the modulation of the phingolipid-cholesterol microdomains prevents the phagocytosis of bacteria and parasites in mammalian cells.
12. The use as claimed in one of the preceding claims, characterized in that

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A2  
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A<sup>2</sup>  
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the modulation of the sphingolipid-cholesterol microdomains prevents the uptake of viruses into mammalian cells and/or their transport and release.

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13. The use as claimed in one of the preceding claims, characterized in that the agent is employed as a therapeutic agent.

- 10 14. The use of gangliosides, ganglioside derivatives and/or cholesterol derivatives for modulating sphingolipid-cholesterol microdomains.

- 15 15. A process for modulating sphingolipid-cholesterol microdomains, characterized in that gangliosides, ganglioside derivatives and/or cholesterol derivatives are administered to a patient at a dose of from 3 mg to 30 mg per kg per day.